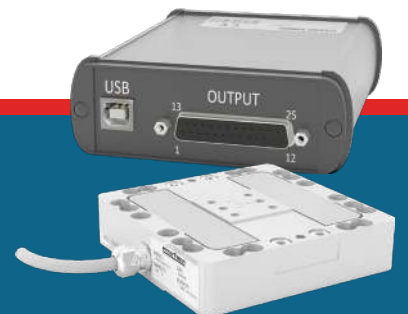
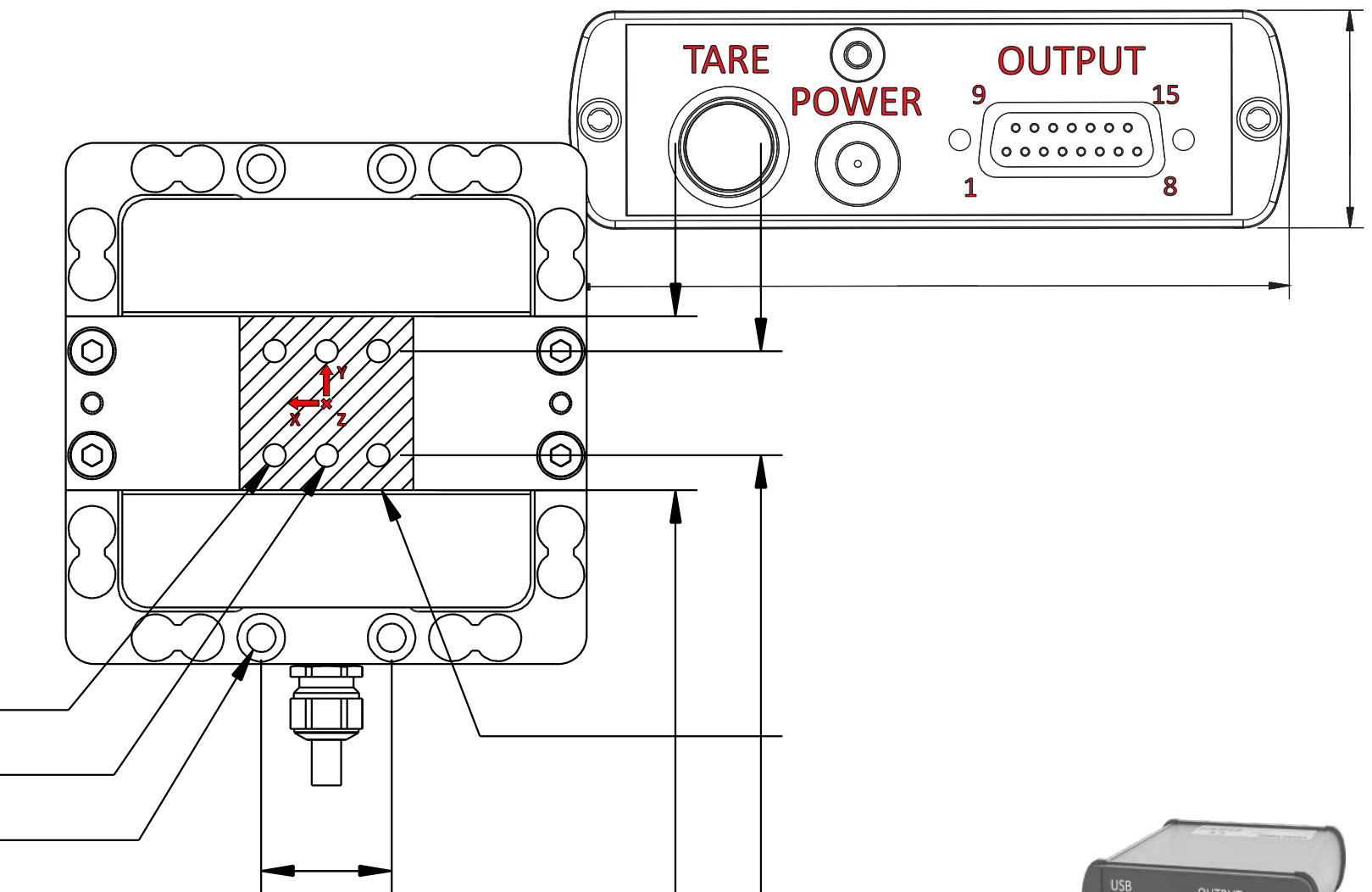


BSC4

Multi-Channel Bridge Amplifier and PC Interface Module

3-Axis

3A Series 3-Axis Force Load Cell 3-Axis Force Measurement



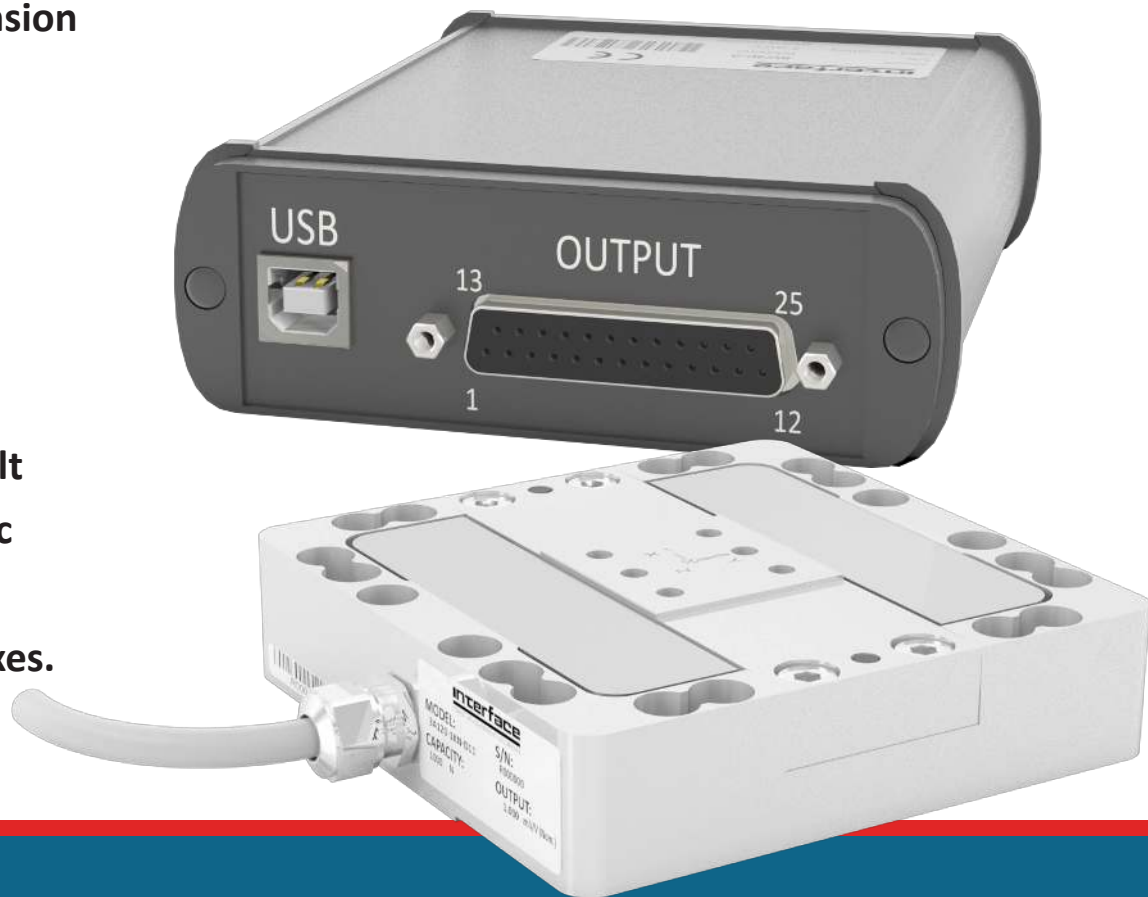
BSC4

Multi-Channel Bridge Amplifier and PC Interface Module

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3A Series 3-Axis Force Load Cell 3-Axis Force Measurement

Interface's 3-axis load cell measures forces simultaneously in 3 mutually perpendicular axes: X, Y, and Z - tension and compression. Each axis provides a unique mV/V output and requires no mathematical manipulation. The 3-axis load cell is built to minimize eccentric loading effects and crosstalk between axes.



Introducing The Interface BSC4/3-Axis Force Measurement System

Interface has created the ideal 3-axis load cell solution that measures forces simultaneously in 3 mutually perpendicular axes: X, Y, and Z – tension and compression. The instrumentation used for this solution is Model BSC4 4-Channel Instrument comes with either a USB Interface or a bridge amplifier option.

The 3AXX load cell provides a full bridge output for each axis and requires no mathematical manipulation. This load cell is built to minimize eccentric loading effects and crosstalk between channels.

The BSC4 Instrument bridge amplifier option comes with $\pm 10V$ and 4-20mA outputs. The USB option comes with Interface's BlueDAQ logging, graphing and display software.

This product can be used with any mV/V input sensors including our Model 3AXX series 3-Axis Load Cells. The bridge amplifier option comes with $\pm 10V$ and 4-20mA outputs. The USB option comes with Interface's BlueDAQ logging, graphing and display software.

This 3-axis solution is ideally suited to many industrial and scientific applications, such as aerospace, robotics, automotive and medical research (orthopedics and biomechanical).

BSC4A

- $\pm 10V$ and 4-20mA outputs.
- Accuracy Class 0.05%.
- Includes Power Supply.

BSC4D

- USB Output.
- 16-bit Internal Resolution.
- Includes BlueDAQ logging, graphing and display software.

3-Axis

- Capacities available Force: 4.5 lbf to 112K lbf (10 N to 500 kN).
- F_x , F_y , F_z ; independent full bridges.
- 10N to 500 kN force range.
- Compact size.



BSC4 Models Available

- BSC4A
- BSC4D



3-Axis Models Available

- 3A60A
- 3A120
- 3A160
- 3A300
- 3A400

BSC4 3-Axis

The BSC4/3-Axis System Consists Of The BSC4, 3-Axis And BlueDAQ Software

Interface's BSC4A Amplifier Solution connects directly to the 3AXX Series load cell and provides outputs of +/-10VDC or 4-20mA output for use with a PLC or Data Acquisition System. This BSC4A can also work successfully with full bridge and half bridges from 87.5 ohm to 5000 and strain gage quarter bridges with 350 ohm.

The BSC4D is a PC interface module also connects directly to the 3AXX series load cell and is also suitable for connecting strain gauge full and half bridges from 87.5 ohm to 5000 ohm and strain gauge

quarter bridges with 350 ohm.

The unit also has eight digital inputs and outputs and comes with BlueDAQ logging, graphing, and display software.

The 3A Series 3-axis load cell is ideally suited to many industrial and scientific applications, such as aerospace, robotics, automotive and medical research (orthopedics and biomechanical).

The load cell is provided in various capacity ranges and sizes with each of the three axes providing the same capacity.



BSC4

- Input sensitivity: Up to 10 mV/V
- Output signals $\pm 10V$ and 4-20 mA on 15 pin Sub-D

3-Axis

- Measures forces simultaneously in 3 mutually perpendicular axes: X, Y, & Z – tension and compression

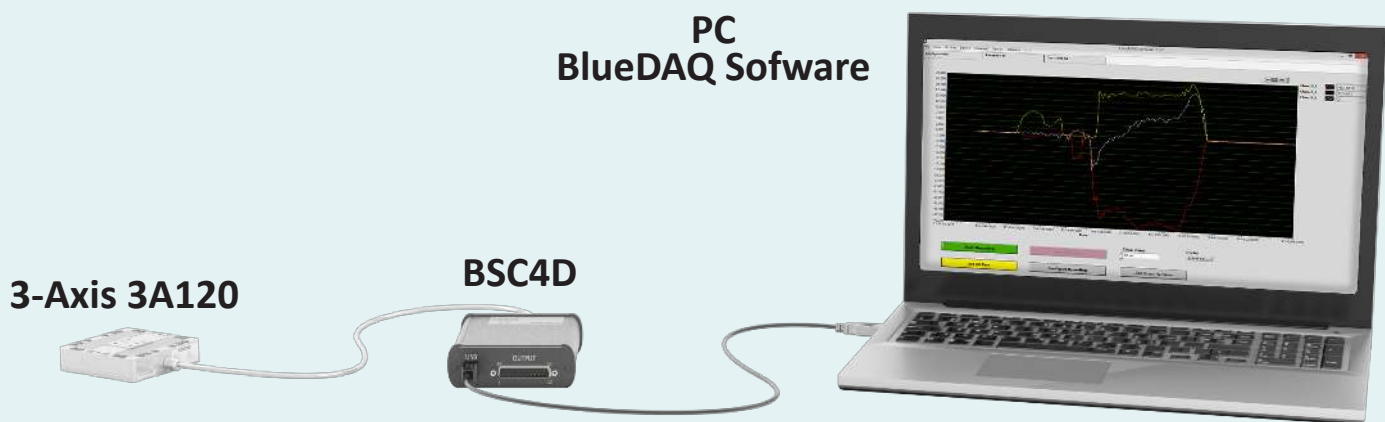
BlueDAQ Software

- Graphing, logging, & display software
- Force and moment value calculation

System Architecture - BSC4A Analog Bridge Amplifier Coupled to 3-Axis



System Architecture - BSC4D Digital PC Interface Module Coupled to 3-Axis



Specifications

Accuracy - (Max Error)

Model	3A60A	3A120	3A160	3A300	3A400
Nonlinearity – %FS	± 0.2	± 0.2	± 0.2	± 0.2	± 0.2
Hysteresis – %FS	± 0.02	± 0.02	± 0.1	± 0.1	± 0.1
Creep, in 30 min – %	± 0.1	± 0.1	± 0.05	± 0.5	± 0.5

Temperature

Model	3A60A	3A120	3A160	3A300	3A400
Effect on Zero – %RO / °C MAX	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02
Effect on Output – % / °C MAX	± 0.02	± 0.02	± 0.02	± 0.02	± 0.02
Compensated Range	°C	-10 to +70	-10 to +70	-10 to +70	-10 to +70
	°F	+14 to +158	+14 to +158	+14 to +158	+14 to +158
Operating Range	°C	-10 to +85	-10 to +85	-10 to +85	-10 to +85
	°F	+14 to +185	+14 to +185	+14 to +185	+14 to +185

* Nominal

Electrical

Model	3A60A	3A120	3A160	3A300	3A400
Rated Output – mV/V (Nominal)	± 0.5	± 0.1	± 0.1	± 0.1	± 0.1
Excitation Voltage – V MAX	10	10	10	10	10
Zero Balance – mV/V	0.1	0.1	0.1	0.1	0.1
Input resistance, x/y axis – Ω	395 ±5	375 ±5	780 ±5	740 ±5	740 ±5
Output resistance, x/y axis – Ω	-	-	-	-	700 ±5
Input resistance, z axis – Ω	-	-	-	-	370 ±5
Output resistance, z axis – Ω	355 ±5	700 ±5	700 ±5	350 ±5	-
Insulation Resistance – Ω	> 5 × 10 ⁹	> 5 × 10 ⁹	> 5 × 10 ⁹	> 5 × 10 ⁹	> 5 × 10 ⁹

Electrical Connection – m 5 Cable with 37-PIN Connector. Includes Mate. 16-PIN Connector. Includes 5 mating cable with 37-PIN connector.

Mechanical

Model 3-Axis (all models)

* See data sheet for mechanical

Eccentricity and Moment

Model 3-Axis (all models)

* See data sheet for eccentricity and moment

Excitation

Model	BSC4A	BSC4D
Excitation Voltage - V	5	2.5
Excitation Current – mA	10	10
Supply Voltage – VDC	11 to 30	4.5 - 5.5 from USB
Supply Current – mA	<1000	<200

Performance

Model	BSC4A	BSC4D
Signal Input Range – mV/V	Up to 10	Up to 10
Accuracy Class – %	0.05	0.05
CMR – dB @ 60 Hz	95 - 110	95 - 110
Data Rate – Hz	-	0 - 125
Sampling Frequency – MHz	-	1.92
Cut-off Frequency – Analog – Hz	250	1000
Cut-off Frequency – Digital	-	Notch Filter
Resolution – bit	Analog	16

Dimensions

Model 3-Axis (all models) BSC4 (all models)

* See data sheet for dimensions

BSC4 3-Axis

Features & Benefits

BSC4 -

- ±10V and 4-20mA or USB outputs
- 4 independent channels
- For use with model 3AXX series 3-axis load cells
- Can be used with up to any 4 standard load cells (with mV/V output)

3-Axis -

- 3-Axis – Fx Fy, Fz; independent bridges
- Compact size
- Low crosstalk
- mV/V output
- Temperature compensated

Options

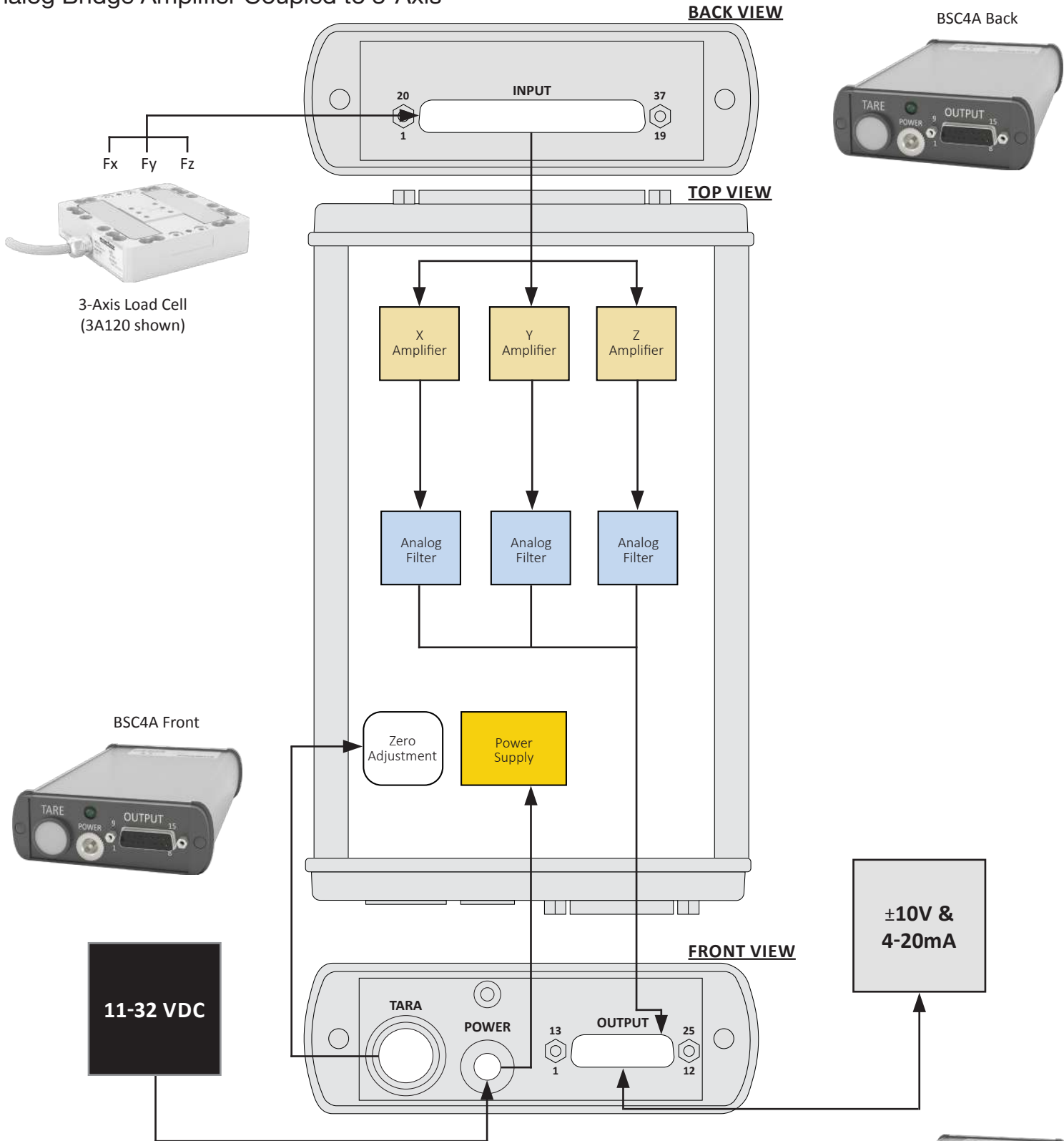
BSC4 -

- M12 load cell connectors (4x)

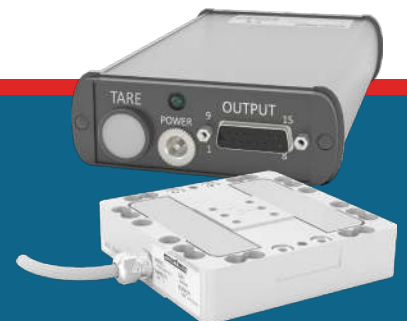
To learn more about the Interface BSC4/3-Axis system or other force measurement solutions call 480-948-5555.

BSC4A Diagram

Analog Bridge Amplifier Coupled to 3-Axis

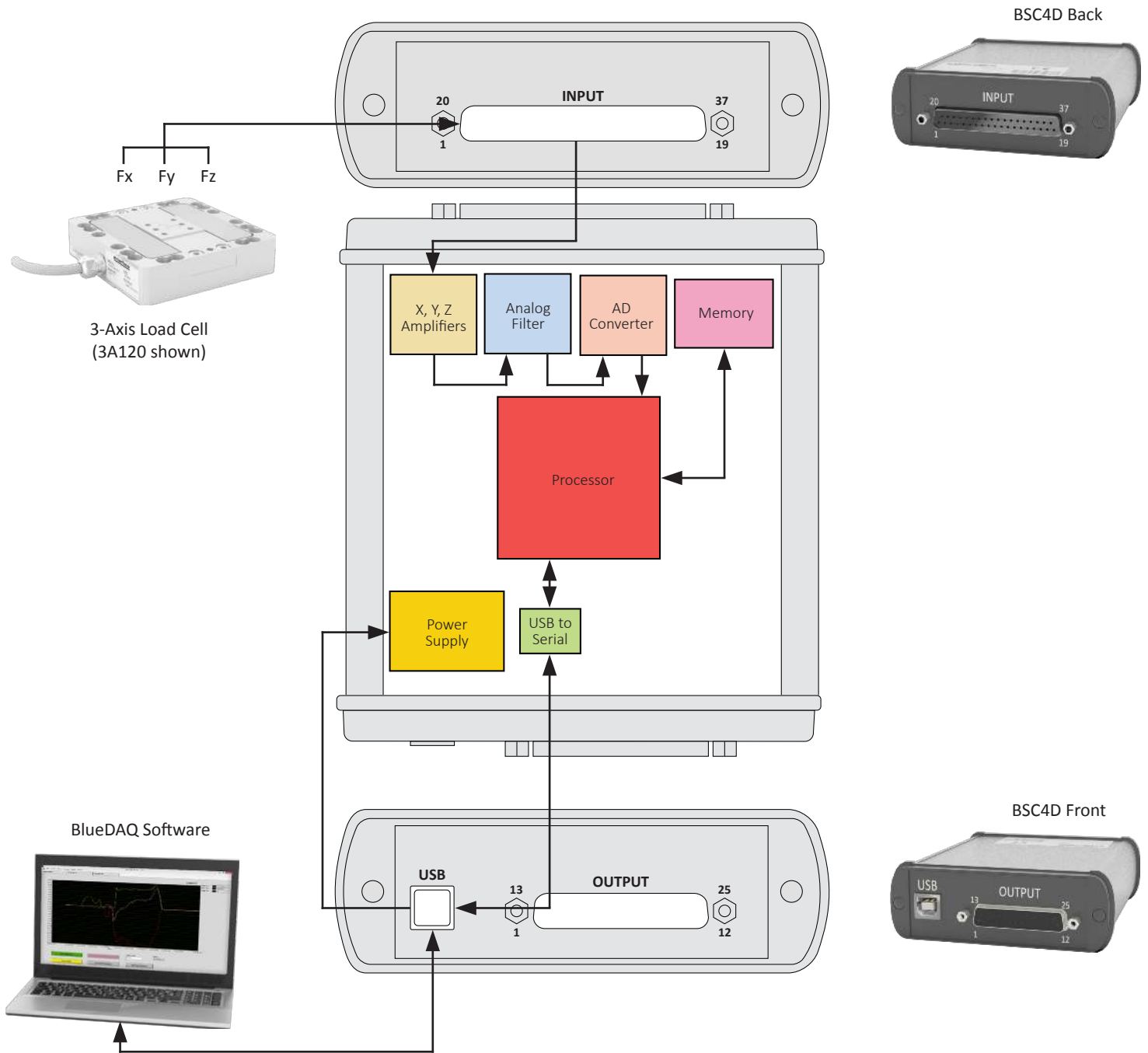


Note: This diagram is showing 3 channels to represent a 3-Axis system. The BCS4A has 4 channel capability.



BSC4D Diagram

Digital PC Interface Module Coupled to 3-Axis



Note: This diagram is showing 3 channels to represent a 3-Axis system. The BCS4A has 4 channel capability.

Interface is the world's trusted leader in technology, design and manufacturing of force measurement solutions. Our clients include a "who's who" of the aerospace, automotive and vehicle, medical device, energy, industrial manufacturing, test and measurement industries.

Interface engineers around the world are empowered to create high-level tools and solutions that deliver consistent, high quality performance. These products include load cells, torque transducers, multi-axis sensors, wireless telemetry, instrumentation and calibration equipment.

Interface, Inc., was founded in 1968 and is a US-based, woman-owned technology manufacturing company headquartered in Scottsdale, Arizona.